



## SEQUENCE LISTING

<110> Cory, Suzanne  
Adams, Jerry  
Print, Cris  
Gibson, Leonie  
Koentgen, Frank

<120> A METHOD OF TREATMENT AND AN ANIMAL MODEL USEFUL FOR  
SAME

<130> 13464

<140> 09/508,745

<141> 2000-07-12

<150> PCT/AU98/00764

<151> 1998-09-16

<160> 8

<170> PatentIn Ver. 2.1

<210> 1

<211> 581

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(579)

<400> 1

atg	gcg	acc	cca	gcc	tcg	gcc	cca	gac	aca	cgg	gct	ctg	gtg	gca	gac	48
Met	Ala	Thr	Pro	Ala	Ser	Ala	Pro	Asp	Thr	Arg	Ala	Leu	Val	Ala	Asp	
1				5				10				15				

ttt	gta	ggt	tat	aag	ctg	agg	cag	aag	ggt	tat	gtc	tgt	gga	gct	ggc	96
Phe	Val	Gly	Tyr	Lys	Leu	Arg	Gln	Lys	Gly	Tyr	Val	Cys	Gly	Ala	Gly	
		20					25					30				

ccc	ggg	gag	ggc	cca	gca	gct	gac	ccg	ctg	cac	caa	gcc	atg	cgg	gca	144
Pro	Gly	Glu	Gly	Pro	Ala	Ala	Asp	Pro	Leu	His	Gln	Ala	Met	Arg	Ala	
		35					40					45				

gct	gga	gat	gag	ttc	gag	acc	cgc	ttc	cgg	cgc	acc	ttc	tct	gat	ctg	192
Ala	Gly	Asp	Glu	Phe	Glu	Thr	Arg	Phe	Arg	Arg	Thr	Phe	Ser	Asp	Leu	
		50				55					60					

gcg	gct	cag	ctg	cat	gtg	acc	cca	ggc	tca	gcc	caa	caa	cgc	ttc	acc	240
Ala	Ala	Gln	Leu	His	Val	Thr	Pro	Gly	Ser	Ala	Gln	Gln	Arg	Phe	Thr	
		65				70				75					80	

cag gtc tcc gat gaa ctt ttt caa ggg ggc ccc aac tgg ggc cgc ctt	288
Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu	
85 90 95	

gta gcc ttc ttt gtc ttt ggg gct gca ctg tgt gct gag agt gtc aac	336
Val Ala Phe Phe Val Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn	
100 105 110	

aag gag atg gaa cca ctg gtg gga caa gtg cag gag tgg atg gtg gcc	384
Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Glu Trp Met Val Ala	
115 120 125	

tac ctg gag acg cgg ctg gct gac tgg atc cac agc agt ggg ggc tgg	432
Tyr Leu Glu Thr Arg Leu Ala Asp Trp Ile His Ser Ser Gly Gly Trp	
130 135 140	

gcg gag ttc aca gct cta tac ggg gac ggg gcc ctg gag gag gcg cgg	480
Ala Glu Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Glu Ala Arg	
145 150 155 160	

cgt ctg cgg gag ggg aac tgg gca tca gtg agg aca gtg ctg acg ggg	528
Arg Leu Arg Glu Gly Asn Trp Ala Ser Val Arg Thr Val Leu Thr Gly	
165 170 175	

gcc gtg gca ctg ggg gcc ctg gta act gta ggg gcc ttt ttt gct agc	576
Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser	
180 185 190	

aag tg	581
Lys	

<210> 2  
 <211> 193  
 <212> PRT  
 <213> Homo sapiens

<400> 2
Met Ala Thr Pro Ala Ser Ala Pro Asp Thr Arg Ala Leu Val Ala Asp
1 5 10 15
Phe Val Gly Tyr Lys Leu Arg Gln Lys Gly Tyr Val Cys Gly Ala Gly
20 25 30
Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala
35 40 45
Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu
50 55 60

Ala	Ala	Gln	Leu	His	Val	Thr	Pro	Gly	Ser	Ala	Gln	Gln	Arg	Phe	Thr	
65					70					75					80	
Gln	Val	Ser	Asp	Glu	Leu	Phe	Gln	Gly	Gly	Pro	Asn	Trp	Gly	Arg	Leu	
				85					90					95		
Val	Ala	Phe	Phe	Val	Phe	Gly	Ala	Ala	Leu	Cys	Ala	Glu	Ser	Val	Asn	
			100					105					110			
Lys	Glu	Met	Glu	Pro	Leu	Val	Gly	Gln	Val	Gln	Glu	Trp	Met	Val	Ala	
		115					120					125				
Tyr	Leu	Glu	Thr	Arg	Leu	Ala	Asp	Trp	Ile	His	Ser	Ser	Gly	Gly	Trp	
	130					135					140					
Ala	Glu	Phe	Thr	Ala	Leu	Tyr	Gly	Asp	Gly	Ala	Leu	Glu	Glu	Ala	Arg	
145					150					155					160	
Arg	Leu	Arg	Glu	Gly	Asn	Trp	Ala	Ser	Val	Arg	Thr	Val	Leu	Thr	Gly	
				165					170					175		
Ala	Val	Ala	Leu	Gly	Ala	Leu	Val	Thr	Val	Gly	Ala	Phe	Phe	Ala	Ser	
			180					185					190			

Lys

<210> 3  
 <211> 581  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1) .. (579)

<400> 3																
atg	gcg	acc	cca	gcc	tca	acc	cca	gac	aca	cgg	gct	cta	gtg	gct	gac	48
Met	Ala	Thr	Pro	Ala	Ser	Thr	Pro	Asp	Thr	Arg	Ala	Leu	Val	Ala	Asp	
1				5					10					15		
ttt	gta	ggc	tat	aag	ctg	agg	cag	aag	ggt	tat	gtc	tgt	gga	gct	ggc	96
Phe	Val	Gly	Tyr	Lys	Leu	Arg	Gln	Lys	Gly	Tyr	Val	Cys	Gly	Ala	Gly	
			20					25					30			
cct	ggg	gaa	ggc	cca	gcc	gcc	gac	ccg	ctg	cac	caa	gcc	atg	cgg	gct	144
Pro	Gly	Glu	Gly	Pro	Ala	Ala	Asp	Pro	Leu	His	Gln	Ala	Met	Arg	Ala	
		35					40					45				
gct	gga	gac	gag	ttt	gag	acc	cgt	ttc	cgc	cgc	acc	ttc	tct	gac	ctg	192

Ala	Gly	Asp	Glu	Phe	Glu	Thr	Arg	Phe	Arg	Arg	Thr	Phe	Ser	Asp	Leu		
50						55					60						
gcc	gct	cag	cta	cac	gtg	acc	cca	ggc	tca	gcc	cag	caa	cgc	ttc	acc	240	
Ala	Ala	Gln	Leu	His	Val	Thr	Pro	Gly	Ser	Ala	Gln	Gln	Arg	Phe	Thr		
65					70					75					80		
cag	gtt	tcc	gac	gaa	ctt	ttc	caa	ggg	ggc	cct	aac	tgg	ggc	cgt	ctt	288	
Gln	Val	Ser	Asp	Glu	Leu	Phe	Gln	Gly	Gly	Pro	Asn	Trp	Gly	Arg	Leu		
				85					90					95			
gtg	gca	ttc	ttt	gtc	ttt	ggg	gct	gcc	ctg	tgt	gct	gag	agt	gtc	aac	336	
Val	Ala	Phe	Phe	Val	Phe	Gly	Ala	Ala	Leu	Cys	Ala	Glu	Ser	Val	Asn		
			100					105					110				
aaa	gaa	atg	gag	cct	ttg	gtg	gga	caa	gtg	cag	gat	tgg	atg	gtg	gcc	384	
Lys	Glu	Met	Glu	Pro	Leu	Val	Gly	Gln	Val	Gln	Asp	Trp	Met	Val	Ala		
		115					120					125					
tac	ctg	gag	aca	cgt	ctg	gct	gac	tgg	atc	cac	agc	agt	ggg	ggc	tgg	432	
Tyr	Leu	Glu	Thr	Arg	Leu	Ala	Asp	Trp	Ile	His	Ser	Ser	Gly	Gly	Trp		
	130					135					140						
gcg	gag	ttc	aca	gct	cta	tac	ggg	gac	ggg	gcc	ctg	gag	gag	gca	cgg	480	
Ala	Glu	Phe	Thr	Ala	Leu	Tyr	Gly	Asp	Gly	Ala	Leu	Glu	Glu	Ala	Arg		
145					150					155					160		
cgt	ctg	cgg	gag	ggg	aac	tgg	gca	tca	gtg	agg	aca	gtg	ctg	acg	ggg	528	
Arg	Leu	Arg	Glu	Gly	Asn	Trp	Ala	Ser	Val	Arg	Thr	Val	Leu	Thr	Gly		
				165					170					175			
gcc	gtg	gca	ctg	ggg	gcc	ctg	gta	act	gta	ggg	gcc	ttt	ttt	gct	agc	576	
Ala	Val	Ala	Leu	Gly	Ala	Leu	Val	Thr	Val	Gly	Ala	Phe	Phe	Ala	Ser		
			180					185					190				
aag	tg															581	
Lys																	

<210> 4  
 <211> 193  
 <212> PRT  
 <213> Mus musculus

<400> 4  
 Met Ala Thr Pro Ala Ser Thr Pro Asp Thr Arg Ala Leu Val Ala Asp  
 1 5 10 15  
 Phe Val Gly Tyr Lys Leu Arg Gln Lys Gly Tyr Val Cys Gly Ala Gly  
 20 25 30

Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala  
           35                          40                          45  
 Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu  
       50                          55                          60  
 Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr  
   65                          70                          75                          80  
 Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu  
                           85                          90                          95  
 Val Ala Phe Phe Val Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn  
           100                          105                          110  
 Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Asp Trp Met Val Ala  
           115                          120                          125  
 Tyr Leu Glu Thr Arg Leu Ala Asp Trp Ile His Ser Ser Gly Gly Trp  
       130                          135                          140  
 Ala Glu Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Glu Ala Arg  
   145                          150                          155                          160  
 Arg Leu Arg Glu Gly Asn Trp Ala Ser Val Arg Thr Val Leu Thr Gly  
                           165                          170                          175  
 Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser  
           180                          185                          190

Lys

<210> 5  
 <211> 583  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1) .. (579)

<400> 5  
 atg gcg acc cca gcc tcg gcc cca gac aca cgg gct ctg gtg gca gac 48  
 Met Ala Thr Pro Ala Ser Ala Pro Asp Thr Arg Ala Leu Val Ala Asp  
   1                          5                          10                          15  
 ttt gta ggt tat aag ctg agg cag aag ggt tat gtc tgt gga gct ggc 96  
 Phe Val Gly Tyr Lys Leu Arg Gln Lys Gly Tyr Val Cys Gly Ala Gly  
           20                          25                          30

ccc ggg gag ggc cca gca gct gac ccg ctg cac caa gcc atg cgg gca	144
Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala	
35 40 45	
gct gga gat gag ttc gag acc cgc ttc cgg cgc acc ttc tct gat ctg	192
Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu	
50 55 60	
gcg gct cag ctg cat gtg acc cca ggc tca gcc cag caa cgc ttc acc	240
Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr	
65 70 75 80	
cag gtc tcc gac gaa ctt ttt caa ggg ggc ccc aac tgg ggc cgc ctt	288
Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu	
85 90 95	
gta gcc ttc ttt ctc ttt ggg gct gca ctg tgt gct gag agt gtc aac	336
Val Ala Phe Phe Leu Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn	
100 105 110	
aag gag atg gaa cca ctg gtg gga caa gtg cag gag tgg atg gtg gcc	384
Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Glu Trp Met Val Ala	
115 120 125	
tac ctg gag acg cgg ctg gtc gac tgg atc cac agc agt ggg ggc tgg	432
Tyr Leu Glu Thr Arg Leu Val Asp Trp Ile His Ser Ser Gly Gly Trp	
130 135 140	
gcg gag ttc aca gct cta tac ggg gac ggg gcc ctg gag gag gcg cgg	480
Ala Glu Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Glu Ala Arg	
145 150 155 160	
cgt ctg cgg gag ggg aac tgg gca tca gtg agg aca gtg ctg acg ggg	528
Arg Leu Arg Glu Gly Asn Trp Ala Ser Val Arg Thr Val Leu Thr Gly	
165 170 175	
gcc gtg gca ctg ggg gcc ctg gta act gta ggg gcc ttt ttt gct agc	576
Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser	
180 185 190	
aag tga a	583
Lys	

<210> 6  
 <211> 193  
 <212> PRT  
 <213> Homo sapiens

<400> 6  
 Met Ala Thr Pro Ala Ser Ala Pro Asp Thr Arg Ala Leu Val Ala Asp  
 1 5 10 15

Phe Val Gly Tyr Lys Leu Arg Gln Lys Gly Tyr Val Cys Gly Ala Gly  
                   20                                  25                                  30  
 Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala  
                   35                                  40                                  45  
 Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu  
                   50                                  55                                  60  
 Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr  
                   65                                  70                                  75                                  80  
 Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu  
                                   85                                  90                                  95  
 Val Ala Phe Phe Leu Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn  
                                   100                                  105                                  110  
 Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Glu Trp Met Val Ala  
                   115                                  120                                  125  
 Tyr Leu Glu Thr Arg Leu Val Asp Trp Ile His Ser Ser Gly Gly Trp  
                   130                                  135                                  140  
 Ala Glu Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Glu Ala Arg  
                   145                                  150                                  155                                  160  
 Arg Leu Arg Glu Gly Asn Trp Ala Ser Val Arg Thr Val Leu Thr Gly  
                                   165                                  170                                  175  
 Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser  
                                   180                                  185                                  190

Lys

<210> 7

<211> 581

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (1)..(579)

<400> 7

atg ccg acc cca gcc tca acc cca gac aca cgc gct cta gtg gct gac 48  
 Met Pro Thr Pro Ala Ser Thr Pro Asp Thr Arg Ala Leu Val Ala Asp  
           1                                  5                                  10                                  15

ttt gta ggc tat agg ctg agg cag aag ggt tat gtc tgt gga gct ggg	96
Phe Val Gly Tyr Arg Leu Arg Gln Lys Gly Tyr Val Cys Gly Ala Gly	
20 25 30	
cct ggg gaa ggc cca gcc gcc gac ccg ctg cac caa gcc atg cgg gct	144
Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala	
35 40 45	
gct gga gac gag ttt gag acc cgt ttc cgc cgc acc ttc tct gac ctg	192
Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu	
50 55 60	
gcc gct cag cta cac gtg acc cca ggc tca gcc cag caa cgc ttc acc	240
Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr	
65 70 75 80	
cag gtt tcc gac gaa ctt ttc caa ggg ggc cct aac tgg ggc cgt ctt	288
Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu	
85 90 95	
gtg gca ttc ttt gtc ttt ggg gct gcc ctg tgt gct gag agt gtc aac	336
Val Ala Phe Phe Val Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn	
100 105 110	
aaa gaa atg gag cct ttg gtg gga caa gtc cag gat tgg atc gtg gcc	384
Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Asp Trp Ile Val Ala	
115 120 125	
tac ctg gag aca cgt ctg gct gac tgg atc cac agc agt ggc ggc tgg	432
Tyr Leu Glu Thr Arg Leu Ala Asp Trp Ile His Ser Ser Gly Gly Trp	
130 135 140	
gcg gac ttc aca gct cta tac ggg gac ggg gcc ctg gag gac gca cgg	480
Ala Asp Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Asp Ala Arg	
145 150 155 160	
cgt ctg cgg gag ggc aac tgg gca tca gtg agc aca gtg gtg acg ggg	528
Arg Leu Arg Glu Gly Asn Trp Ala Ser Val Ser Thr Val Val Thr Gly	
165 170 175	
gcc gtg gca ctg ggg gcc ctg gta act gta ggg gcc ttt ttt gct agc	576
Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser	
180 185 190	
aag tg	581
Lys	



<210> 8  
 <211> 193  
 <212> PRT  
 <213> Mus musculus

<400> 8

Met Pro Thr Pro Ala Ser Thr Pro Asp Thr Arg Ala Leu Val Ala Asp  
 1 5 10 15

Phe Val Gly Tyr Arg Leu Arg Gln Lys Gly Tyr Val Cys Gly Ala Gly  
 20 25 30

Pro Gly Glu Gly Pro Ala Ala Asp Pro Leu His Gln Ala Met Arg Ala  
 35 40 45

Ala Gly Asp Glu Phe Glu Thr Arg Phe Arg Arg Thr Phe Ser Asp Leu  
 50 55 60

Ala Ala Gln Leu His Val Thr Pro Gly Ser Ala Gln Gln Arg Phe Thr  
 65 70 75 80

Gln Val Ser Asp Glu Leu Phe Gln Gly Gly Pro Asn Trp Gly Arg Leu  
 85 90 95

Val Ala Phe Phe Val Phe Gly Ala Ala Leu Cys Ala Glu Ser Val Asn  
 100 105 110

Lys Glu Met Glu Pro Leu Val Gly Gln Val Gln Asp Trp Ile Val Ala  
 115 120 125

Tyr Leu Glu Thr Arg Leu Ala Asp Trp Ile His Ser Ser Gly Gly Trp  
 130 135 140

Ala Asp Phe Thr Ala Leu Tyr Gly Asp Gly Ala Leu Glu Asp Ala Arg  
 145 150 155 160

Arg Leu Arg Glu Gly Asn Trp Ala Ser Val Ser Thr Val Val Thr Gly  
 165 170 175

Ala Val Ala Leu Gly Ala Leu Val Thr Val Gly Ala Phe Phe Ala Ser  
 180 185 190

Lys

*Ala*  
*new*